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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,061	01/15/2002	Toren S. Davis	H0002526 (A66) US	1119

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EXAMINER

TORRES, MELANIE

ART UNIT PAPER NUMBER

3683

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,061

Applicant(s)

DAVIS, TOREN S.

Examiner

Melanie Torres

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5,7-10 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5,7-10 and 12-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 5, 7, 10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Griffen et al.

Re claims 5, and 10, Griffen et al. teaches a tuned mass damper comprising a mass having predetermined inertia properties and a plurality of isolators (hexapod/secondary suspension) arranged in a hexapod configuration, each isolator having at least a first end and a second end, each isolator first end coupled to the mass (Secondary mass) and each isolator second end adapted to couple to a structure (Primary Mass or Payload) that may experience vibrations at particular frequencies in six independent degrees of freedom, wherein each of the isolators in combination with the mass, is configured to be tuned independent of the other isolators to reduce a first particular frequency of the vibrations experienced by the structure. (Fig. 9, Column 1, line 67 – Column 2, line 9, Column 7, lines 18-21)

Re claims 7 and 12, Griffen et al. teaches wherein each of the isolators, in combination with the mass, is individually tuned such that a combination of two or more isolators reduces a particular frequency. It is the examiner's position that this would be an inherent feature of the structure.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Griffen et al. in view of Cunningham et al.

Re claims 8 and 13, Griffen et al. teach wherein each isolator second end is adapted to couple the structure at a predetermined location thereon. However, Griffen et al. do not teach wherein each isolator comprises a spring having an adjustable spring constant, and wherein each isolator is individually tuned by adjusting its spring constant and the predetermined location on the structure to which its second end will couple. Cunningham et al. teaches wherein each isolator comprises a spring having an adjustable spring constant, and wherein each isolator is individually tuned by adjusting its spring constant and the predetermined location on the structure to which its second end will couple as is acknowledged by applicant on page 2, lines 17-21. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tuned and adjusted each isolator to provide the desired vibration isolation in six degrees of freedom.

5. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffen et al. in view of Gran et al.

Re claim 9, Griffin et al. does not teach wherein the isolators comprise tubular damping struts with first and second spherical pivots at opposite ends of the tubular damping strut. Gran et al. teaches isolators comprise tubular damping struts (6) with first and second spherical pivots at opposite ends of the tubular damping strut in a hexapod configuration. (Fig. 2, 6) The examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the isolators and pivots of Gran et al. in the assembly of Griffin et al. as the use of damping struts and pivots is well known in hexapod assemblies.

Response to Arguments

6. Applicant's arguments filed January 28, 2004 have been fully considered but they are not persuasive.

As was argued in the previous office action, applicant argues that Griffen et al. does not teach wherein each of the isolators in combination with the mass is individually tuned to reduce the vibrations experienced by the structure. It is unclear to the examiner how the instant application differs from the prior art. Structurally, both the prior art and the instant application teach wherein the hexapod suspension couples to rotation and translation in all three dimensions. The purpose of the structure is to reduce vibrations and anyone skilled in the art would tune the isolators to reduce such vibrations. The claim language is interpreted such that the isolators in combination with the mass are tuned to reduce the vibrations of the structure. This is the purpose of the damper of Griffen et al. and though applicant may intend to claim wherein each individual

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isolator has certain damping characteristics independent of the other isolators, the current claim language does not support a more specific interpretation.

Re applicant's amendment, because the each isolator is an individual unit, it is capable to tune each isolator individually. Therefore, this interpretation can be readable on applicants limitation that the isolators are "configured to be tuned independent of the other isolators to reduce a first particular frequency."

The suspension configuration does not differ structurally and it is well known in the art that such tuning is done in order to reduce vibrations of a variety of different frequencies depending upon the design choice and the use of the apparatus. Hexapod configurations with pivots connecting the isolators to the masses are well known in the art and the tuning of the structure is inherent in the assembly of the apparatus as is described by applicant's specification on pages 3 and 4 wherein "these well-known struts 14 are traditionally used as isolators for shock absorption mounts for payload ... each strut 14 can be tuned with the one mass 10 to reduce particular frequencies alone or in combination with one or more other struts 14. This is because each strut 14 can move independently; that is, without extending the others, only requiring rotation at each strut's pivot point 18. By way of example, the mass 10 can rotate around the pivot 18 without extending the associated strut 14, even though other struts, for instance struts 20, 21, will extend." Therefore, the rejection is maintained.

Conclusion

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Torres whose telephone number is (703)305-0293. The examiner can normally be reached on Monday-Friday, 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on (703)308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-2571 for regular communications and (703)308-2571 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1113.

A handwritten signature in cursive script that reads "Melanie Torres".

MT
August 9, 2004